IN THE CLAIMS

Please amend the claims as follows.

1. (Currently Amended) A ~~stream cipher cryptosystem~~ system comprising:

a source for providing an encryption keystream in a stream cipher cryptosystem;

an encryption combiner receiving a first plaintext binary data sequence and the encryption keystream and performing a first set of two non-associative operations on the first plaintext binary data sequence and the encryption keystream to provide a ciphertext binary data sequence;

a source for providing a decryption keystream; and

a decryption combiner receiving the ciphertext binary data sequence and the decryption keystream and performing a second set of two non-associative operations on the ciphertext binary data sequence and the decryption keystream to provide a second plaintext binary data sequence identical to the first plaintext binary data sequence.

2. (Currently Amended) The ~~stream cipher cryptosystem~~ system of claim 1 wherein each operation in the second set is the inverse of an operation in the first set.

3. (Currently Amended) The ~~stream cipher cryptosystem~~ system of claim 1 wherein the operations in the first set include an integer addition operation and an XOR operation, and the operations in the second set include an integer subtraction operation and an XOR operation.

4. (Currently Amended) The ~~stream cipher cryptosystem~~ system of claim 1 wherein the operations in the first set include an integer subtraction operation and an XOR operation, and the operations in the second set include an integer addition operation and an XOR operation.

5. (Currently Amended) The ~~stream cipher cryptosystem~~ system of claim 1 wherein the operations in the first set include a modular multiplication operation and an XOR operation, and

the operations in the second set include an inverse modular multiplication operation and an XOR operation.

6. (Currently Amended) The ~~stream cipher cryptosystem~~ system of claim 1 wherein the operations in the first set include an inverse modular multiplication operation and an XOR operation, and the operations in the second set include a modular multiplication operation and an XOR operation.

7. (Currently Amended) The ~~stream cipher cryptosystem~~ system of claim 1 wherein the operations in the first set include a rotate right operation and an XOR operation, and the operations in the second set include a rotate left operation and an XOR operation.

8. (Currently Amended) The ~~stream cipher cryptosystem~~ system of claim 1 wherein the operations in the first set include a rotate left operation and an XOR operation, and the operations in the second set include a rotate right operation and an XOR operation.

9. (Currently Amended) A ~~stream cipher cryptosystem~~ system comprising:

a source for receiving a key and providing a keystream in a stream cipher cryptosystem; and

a cryptographic combiner receiving a first binary data sequence and the keystream and performing two sequential non-associative operations on the first binary data sequence and the keystream to provide a second binary data sequence.

10. (Currently Amended) The ~~stream cipher cryptosystem~~ system of claim 9 wherein the cryptographic combiner is an encryption combiner and the first binary data sequence is a plaintext binary data sequence and the second binary data sequence is a ciphertext binary data sequence.

11. (Currently Amended) The ~~stream cipher cryptosystem~~ system of claim 9 wherein the cryptographic combiner is a decryption combiner and the first binary data sequence is a

ciphertext binary data sequence and the second binary data sequence is a plaintext binary data sequence.

12. (Currently Amended) The ~~stream cipher cryptosystem~~ system of claim 9 wherein the two sequential non-associative operation are an integer addition operation and an XOR operation.

13. (Currently Amended) The ~~stream cipher cryptosystem~~ system of claim 9 wherein the two sequential non-associative operations are an integer subtraction operation and an XOR operation.

14. (Currently Amended) The ~~stream cipher cryptosystem~~ system of claim 9 wherein the two sequential non-associative operations are a modular multiplication operation and an XOR operation.

15. (Currently Amended) The ~~stream cipher cryptosystem~~ system of claim 9 wherein the two sequential non-associative operations are an inverse modular multiplication operation and an XOR operation.

16. (Currently Amended) The ~~stream cipher cryptosystem~~ system of claim 9 wherein the two sequential non-associative operations are a rotate right operation and an XOR operation.

17. (Currently Amended) T he ~~stream cipher cryptosystem~~ system of claim 9 wherein the two sequential non-associative operations are a rotate left operation and an XOR operation.

18. (Currently Amended) A method of encrypting a plaintext binary data sequence, the method comprising the steps of:

generating an encryption keystream as a function of a key in a stream cipher cryptosystem; and

combining the plaintext binary data sequence and the encryption keystream with two non-associative operations to provide a ciphertext binary data sequence.

19. (Original) The method of claim 18 wherein the two non-associative operations include an integer addition operation.

20. (Original) The method of claim 19 wherein the two non-associative operations include an XOR operation.

21. (Original) The method of claim 18 wherein the two non-associative operations include an integer subtraction operation.

22. (Original) The method of claim 21 wherein the two non-associative operations include an XOR operation.

23. (Original) The method of claim 18 wherein the two non-associative operations include a modular multiplication operation.

24. (Original) The method of claim 23 wherein the two non-associative operations include an XOR operation.

25. (Original) The method of claim 18 wherein the two non-associative operations include an inverse modular multiplication operation.

26. (Original) The method of claim 25 wherein the two non-associative operations include an XOR operation.

27. (Original) The method of claim 18 wherein the two non-associative operations include a rotate right operation.

28. (Original) The method of claim 27 wherein the two non-associative operations include an XOR operation.

29. (Original) The method of claim 18 wherein the two non-associative operations include a rotate left operation.

30. (Original) The method of claim 29 wherein the two non-associative operations include an XOR operation.

31. (Currently Amended) A method of decrypting a ciphertext binary data sequence, the method comprising the steps of:

generating a decryption keystream as a function of a key in a stream cipher cryptosystem; and

combining the ciphertext binary data sequence and the decryption keystream with two non-associative operations to provide a plaintext binary data sequence.

32. (Original) The method of claim 31 wherein the two non-associative operations include an integer addition operation.

33. (Original) The method of claim 32 wherein the two non-associative operations include an XOR operation.

34. (Original) The method of claim 31 wherein the two non-associative operations include an integer subtraction operation.

35. (Original) The method of claim 34 wherein the two non-associative operations include an XOR operation.

36. (Original) The method of claim 31 wherein the two non-associative operations include a modular multiplication operation.

37. (Original) The method of claim 36 wherein the two non-associative operations include an XOR operation.

38. (Original) The method of claim 31 wherein the two non-associative operations include an inverse modular multiplication operation.

39. (Original) The method of claim 38 wherein the two non-associative operations include an XOR operation.

40. (Original) The method of claim 31 wherein the two non-associative operations include a rotate right operation.

41. (Original) The method of claim 40 wherein the two non-associative operations include an XOR operation.

42. (Original) The method of claim 31 wherein the two non-associative operations include a rotate left operation.

43. (Original) The method of claim 42 wherein the two non-associative operations include an XOR operation.